IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SPACETIME3D, INC. *Plaintiff,* v. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.,	§ § § § § § § § § § §	Case No. 2:19-cv-00372-JRG

CLAIM CONSTRUCTION MEMORANDUM AND ORDER

On October 21, 2020, the Court held a hearing to determine the proper construction of the disputed claim terms within in United States Patent Nos. 8,881,048 ("the '048 Patent"); 9,304,654 ("the '654 Patent"); and 9,696,868 ("the '868 Patent") (collectively, "the Asserted Patents"). Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing (Dkt. Nos. 55, 64 & 69), having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Memorandum and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *see also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

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I. BACKGROUND

Plaintiff SpaceTime3D, Inc. ("Plaintiff") alleges that Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively "Defendants" or "Samsung") infringe the Asserted Patents. Shortly before the start of the October 21, 2020 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion.

All of the Asserted Patents are related to each other and share effectively the same specification. Plaintiff contends that the Asserted Patents describe systems and methods for easily, efficiently, and intuitively interacting with and switching between applications operating on a computing device by switching between individual, active applications in a two-dimensional space and images of those applications in a stack displayed in three-dimensional space. Dkt. No. 55 at 6.[1] Plaintiff further contends that this benefits consumers by saving time when inputting information into a computer or mobile device to run applications or to navigate to certain information. *Id.* at 7. (citing '048 Patent at 1:38–55, 36:37–52).

The Abstract of the '048 Patent states the following:

> Methods and systems are provided for providing an improved three-dimensional graphical user interface. In one embodiment, the method generally comprises: receiving an input from an end user, and capturing computing output from at least one computer source in response to the received end-user input. The computing output can be presented as two or more objects within a three-dimensional virtual space displayed to the end user. In one embodiment, the method further comprises generating a timeline that includes an icon for each object presented within the virtual space. In another embodiment, the method further comprises providing a database for storing and categorizing data regarding each object presented within the virtual space.

Claim 1 of the '048 Patent is an illustrative claim and recites the following elements

[1] Citations to the parties' filings are to the filing's number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

(disputed terms in italics):

> 1. A method for providing a three-dimensional (3D) graphical user interface, comprising:
> receiving at least first and second inputs from an end user;
> receiving first and second webpages from at least one server in response to said first and second inputs, wherein the first and second inputs are website addresses corresponding to said first and second webpages, respectively;
> displaying at least a portion of the first webpage on a first object within a *3D space*, and at least a portion of the second webpage on a second object within the *3D space*, comprising;
> rendering the first and second webpages;
> capturing first and second images of the at least a portion of the first webpage and
> the at least a portion of the second webpage, respectively; and
> *texturing* the first image on the first object and the second image on the second object, the first object being displayed in a foreground of the *3D space* and the second object being displayed in a background of the *3D space*; and
> displaying additional information, comprising:
> receiving an interaction by the end user on the first image;
> replacing the first and second objects within the *3D space* with a window within a two-dimensional (2D) space in response to receiving the interaction, wherein the window includes the rendered first webpage;
> receiving an interaction by the end user on a link provided in the rendered first webpage, the link corresponding to the additional information;
> rendering the additional information; and
> displaying the rendered additional information in said window within the *2D space*.

II. APPLICABLE LAW

This Court's claim construction analysis is guided by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the Federal Circuit reiterated that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Id.* at 1312 (citations omitted). The starting point in construing such claims is their ordinary and customary meaning, which "is the meaning that the term would have to a

person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id*. at 1312–13 (citations omitted).

However, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id*. at 1313. For this reason, the specification is often "the single best guide to the meaning of a disputed term." *Id*. at 1315 (citation omitted). However, it is the claims, not the specification, which set forth the limits of the patentee's invention. *Id.* at 1312 (citations omitted). Thus, "it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004) (citations omitted). Other asserted or unasserted claims can also aid in determining a claim's meaning. *See, e.g., Phillips*, 415 F.3d at 1314 (explaining that use of "steel baffles" and "baffles" implied that "baffles" did not inherently refer to objects made of steel).

The prosecution history also plays an important role in claim interpretation as intrinsic evidence of how the U.S. Patent and Trademark Office ("PTO") and the inventor understood the patent. *Id*. at 1317 (citations omitted); *see also Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (noting that "a patentee's statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation"); *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1361 (Fed. Cir. 2017) (applying this principle in the context of *inter partes* review proceedings). However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes."

Phillips, 415 F.3d at 1317 (citing *Athletic Alts., Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (noting that ambiguous prosecution history may be "unhelpful as an interpretive resource" for claim construction)) (other citation omitted).

Additionally, courts may rely on extrinsic evidence such as "expert and inventor testimony, dictionaries, and learned treatises." *Id*. at 1317 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996)). As the Supreme Court explained, "In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva Pharm*, 574 U.S. 318, 331 (2015) (citation omitted). However, the Federal Circuit has emphasized that such extrinsic evidence is subordinate to intrinsic evidence. *Phillips*, 415 F.3d at 1317 ("[W]hile extrinsic evidence can shed useful light on the relevant art, we have explained that it is less significant than the intrinsic record in determining the legally operative meaning of claim language.") (internal quotation marks omitted) (citations omitted).

III. THE PARTIES' STIPULATED TERMS

The parties agreed to the constructions of the following term in their October 7, 2020 P.R. 4-5(d) Joint Claim Construction Chart.

Claim Term/Phrase	**Agreed Construction**
"database" '654 Patent: Claim 4 '868 Patent: Claim 4	"a collection of stored data"

Dkt. No. 75-1 at 1. In view of the parties' agreement on the proper construction of the identified terms, the Court hereby **ADOPTS** the parties' agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

The parties dispute the meaning of six terms/phrases in this case.

A. Three-Dimensional (3D) Space Terms and Two-Dimensional (2D) Space Terms

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
"three-dimensional (3D) [immersive] space" "three-dimensional space" "3D [immersive] space"	No construction necessary; plain and ordinary meaning applies. Alternatively: "A simulated (or virtual) space that has the appearance of an x-axis, y-axis, and z-axis displayed to an end user on a two-dimensional screen"	"a virtual space in which objects have a horizontal position (x), a vertical position (y), and a depth (z)"
"two-dimensional (2D) space" "two-dimensional space" "2D space"	No construction necessary; plain and ordinary meaning applies. Alternatively: "A space with only an x-axis and y-axis on which objects or windows can be displayed, such as a flat screen"	"a virtual space in which objects have only a height and width"

1. The Parties' Positions

The parties present two disputes for the 2D Space Terms. The parties first dispute whether the claimed "2D space" refers to a virtual space, such as a GUI created by a computer's output, as Defendants propose, or if it refers to a physical device "on which" objects are displayed, as Plaintiff proposes. The parties also dispute whether a "2D space" is a space "in which objects have only a height and width," as Defendants propose, or if it is one "with only an x-axis and a y-axis," as Plaintiff proposes. Regarding the 3D Space Terms, the parties dispute whether the claimed "3D space" should be construed to include objects having depth, as Defendants propose, or if the claimed "3D space" can include a GUI with the appearance of a z-axis, as Plaintiff proposes.

Plaintiff contends that jurors will readily understand the meaning of "3D" and "2D." Dkt.

No. 55 at 9. Plaintiff also contends that each independent claim puts the terms "3D space" and "2D space" in the context of a graphical user interface in which objects or windows are displayed within a 3D or 2D space. *Id.* at 10 (citing '048 Patent at claim 1; '654 Patent at claim 1; '868 Patent at claim 1). Plaintiff further argues that Defendants' constructions do not define 3D or 2D space at all. *Id.* at 11. Plaintiff contends that Defendants' constructions define a 3D or 2D object, which it contends is inconsistent with the claim language, and would read out numerous embodiments disclosed by the specification. *Id.*

Plaintiff next argues that the specification confirms that "3D space" concerns a virtual space with the appearance of an x-axis, y-axis, and z-axis that is displayed on a screen. *Id.* (citing '048 Patent at 4:59–5:8, 7:66–67, 8:13–16, 2:64–3:4, 31:48–59). According to Plaintiff, the specification confirms that it is not the object displayed in a window that must be 3D, but instead is a virtual space that must have the appearance of 3D. *Id.* at 12. Plaintiff argues that the figures included in the specification further confirm that the space is what must have the appearance of having an x-axis, y-axis, and z-axis. *Id.* (citing '048 Patent at Figures 11 and 13A).

Plaintiff contends that the objects within the 3D space can appear as 2D or 3D depending on the "user's viewpoint . . . , where 'viewpoint is defined as a specific location or perspective in the local coordinate system (3D space) from which the user can view the scene or file." *Id.* at 13-14 (citing '048 Patent at 9:62–65, 23:9–12). Plaintiff argues that the user's viewpoint within the 3D space dictates whether the displayed objects themselves appear 2D or 3D, but does not change the fact that the space itself has the appearance of depth, width, and height. *Id.* at 14 (citing '048 Patent at 9:62–65, 23:9–12).

Plaintiff also argues that Defendants improperly read out all the 3D space embodiments disclosed in the specification in which the user's viewpoint is head on. *Id.* at 14 (citing '048 Patent

at Figures. 9, 10, 13A, 15, 16A, 16B, 17A, 17B, 17C, 21, 22). Plaintiff contends that Defendants' construction would render nonsensical the claim language of the '654 and '868 Patents. *Id.* at 15. Plaintiff further contends that the "objects" are displayed in 2D space, and not 3D space, in the claims of the '654 and '868 Patents. *Id.* (citing '868 Patent at 38:53, 40:58–59, 39:40–44, 41:10–14; '654 Patent at 38:25–29, 40:8–12).

Regarding the 2D space term, Defendants respond that the claims make clear that the recited "2D space" is a type of GUI created by the computer's output within which something is displayed and is not a physical device. Dkt. No. 64 at 8. Defendants argue that the claims recite displaying objects "within" or "in" the 2D space rather than "on" the 2D space. *Id.* at 8-9 (citing '048 Patent at claims 1-3, 5; '868 Patent at claim 1; '654 Patent at claim 1). Defendants next argue that the claims separately recite the "2D space" and the physical screen. *Id.* at 9. Defendants contend that the physical display screen is neither the 2D space nor the 3D space, but instead is hardware used to display both virtual spaces. *Id.*

Defendants also contend that the specification introduces a "2D (two-dimensional) visual display" as a GUI. *Id.* (citing '048 Patent at 1:56–2:3). Defendants argue that the specification then describes many 2D graphics and other 2D computer-generated output that may make up the 2D GUI. *Id.* at 10. Finally, Defendants contend that the specification indicates that "2D" and "3D" are two variants of GUIs. *Id.* (citing '048 Patent at 21:53–58, 24:27–34, 31:50–57, 33:26–32, 33:50–57). Defendants argue that Plaintiff never explains why "3D space" should be construed as a virtual space while "2D space" should not, because both are virtual spaces. *Id.*

Defendants further argue that Plaintiff's construction falls short because it fails to distinguish a 2D space from what Plaintiff contends is a 3D space. *Id.* According to Defendants, the specification teaches that a 2D GUI can have an x-axis and a y-axis, and also have the

appearance of a z-axis. *Id.* at 11 (citing '048 Patent at 2:6–12). Defendants argue that a construction that results in a GUI being both a 2D and 3D space should be rejected, because the 2D and 3D spaces are different things. *Id.* Defendants also argue that the specification explains that a 2D space displays 2D objects, and the specification only discusses a 2D space displaying 2D objects. *Id.* Defendants contend that the claimed 3D space must display 3D objects. *Id.* According to Defendants, the claimed 2D and 3D spaces are defined at least in part by the type of objects (3D or 2D) displayed in the respective spaces. *Id.*

Regarding the 3D space term, Defendants argue that the specification acknowledged the prior art's shortcomings. *Id.* at 12 (citing '048 Patent at 1:37–2:43, 2:47–48). Defendants contend that the specification teaches that a 3D space differs from a 2D space because the 3D space's objects have depth, and that such depth is "important" in creating the "new virtual space." *Id.* at 13 (citing '048 Patent at 2:47–55). According to Defendants, the specification distinguishes prior art 2D spaces from the 3D spaces defined by 3D objects that "have depth." *Id.*

Defendants also argue that the specification repeatedly shows windows of 3D spaces with objects that are not limited to "height and width only," but "also have depth." *Id.* (citing '048 Patent at Figures 10-12, 19). Defendants contend that the specification teaches that although the system may display a "2D version" of a 3D object, it does so outside of the 3D space. *Id.* at 14 (citing '048 Patent at 21:20–49). According to Defendants, their construction is derived from the specification's teaching that "[w]e live in a 3D (three-dimensional) world where we see that objects that not only have a horizontal position (x) and vertical position (y) but also have depth (z)." *Id.* (citing '048 Patent at 2:14–18, 2:51–55).

Defendants next contend that Plaintiff's argument that their construction defines 3D objects rather than 3D spaces is wrong. *Id.* Defendants argue that the specification describes "the 3D GUI"

"creat[ing]" "the 3D immersive space." *Id.* (citing '048 Patent at 9:62–66, 4:59–63, 5:6–10). Defendants further argue that the only passage cited by Plaintiff teaches using 3D objects in a 3D space and, at most, teaches that a 3D space could include both "2D and 3D objects." *Id.* at 16. Defendants also contend that the specification shows that the objects in Figure 13A do in fact have depth, and all three dimensions of the window are seen in Figure 19 because the window has been rotated. *Id.* at 16-17 (citing '048 Patent at Figures 13A, 19). According to Defendants, there is no 3D space/2D object embodiment in the specification that is being read out of the claims by Defendants' construction. *Id.* at 17 (citing '048 Patent at 28:53–57, Figures 9, 10). Finally, Defendants argue that their construction does not equate the word "object" with "3D." *Id.* at 17-18.

Regarding Plaintiff's construction, Defendants argue that it is incorrect because the construction reads on the prior art 2D windows that are described in the specification that have height and width, and also "appear as if they have depth." *Id.* at 19 (citing '048 Patent at 1:67–2:12). Defendants also argue that Plaintiff's construction of 2D space reads on the prior art 2D windows that are described in the specification that actually have height and width, but only are made to "appear as if they have depth" by using shadows. *Id.* Defendants contend that two different spaces (3D and 2D) cannot read on the same windows. *Id.*

Plaintiff replies that in order to create a 3D space on a display device, the 3D space must be "simulated" or "virtual," and have "the appearance of a[] . . . z-axis." Dkt. No. 69 at 5 (citing '048 Patent at 7:66–67). Plaintiff argues that any "3D space" is necessarily a simulated space or environment, because the objects are being virtually displayed on a GUI of a flat 2D surface. *Id.* Plaintiff contends that Defendants improperly conflate "space" with "objects" by insisting that a "2D space" is a virtual space in which displayed objects have only height and width, while a "3D

space" is a virtual space in which displayed objects have height, width, and depth. *Id.* at 6.

Plaintiff further argues that the claim language describes a "2D space" and "3D space, not "2D object" or "3D object." *Id.* at 6. Plaintiff also argues that the claim language makes clear that objects ('048 Patent) and images ('654 and '868 Patents) are displayed in a foreground and background of the 3D space, indicating that it is the space, not the objects/images within it, that has the appearance of a z-axis. *Id.* (citing '048 Patent at 38:35–37; '654 Patent at 39:15–16). Plaintiff further argues that the claims also distinguish between "space" and "objects." *Id.* at 7 (citing '048 Patent at 37:57–58; '654 Patent at 38:25–28; '868 Patent at 38:53–54).

Plaintiff next argues that the specification makes clear that both 2D and 3D objects can exist in 3D space. *Id.* (citing '048 Patent at 31:52–57, 33:26–29, 33:50–55, 2:28–34). Plaintiff contends that a space with an appearance of width (x), height (y), and depth (z) is a 3D space, not a 2D space. *Id.* at 8. Plaintiff also contends that Defendants' "illustration" on page 14 shows a 3D space, not a 2D space, and their assertion that the specification supports their position is incorrect. *Id.* at 8. Plaintiff argues that during prosecution of the '048 Patent, the examiner found that figures from U.S. Pat. No. 6,768,999 (Prager) featuring overlapping windows disclosed a 3D space. *Id.* at 8 (citing Dkt. No. 69-1 at 6-7).

2. Analysis

The terms "three-dimensional (3D) [immersive] space," "three-dimensional space," and "3D [immersive] space" (collectively the "3D Terms") appear in asserted claims 1, 8, and 14 of the '048 Patent; claims 1, 10, and 19 of the '654 Patent; and claims 1, 10, and 19 of the '868 Patent. The Court finds that the terms are used consistently in the claims and are intended to have the same general meaning in each claim. The terms "two-dimensional (2D) space," "two-dimensional space," and "2D space" (collectively the "2D Terms") appear in asserted claims 1, 8, and 14 of the

'048 Patent; claims 1, 10, and 19 of the '654 Patent; and claims 1, 10, and 19 of the '868 Patent. The Court finds that the terms are used consistently in the claims and are intended to have the same general meaning in each claim.

A review of the intrinsic evidence indicates that the 2D terms and 3D terms should be considered together given that they operate within the same display. *See, e.g.*, '048 Patent at 7:59–63 ("The invention provides a Graphical User Interface (GUI) that uses the two-dimensional display of an end user's computer to display information (e.g., webpages and other information mapped onto 3D objects) in a simulated real-time 3-D immersive Cartesian space."), 21:54–58 ("[A]n end user can toggle or switch between 2D and 3D for any selectively captured computing output and information (webpages, applications, documents, desktops or anything that can be visualized on a computer) that was drawn within a 3D virtual space at will by using this technique.").

The 2D Terms relate to and describe the prior art, and the 3D Terms relate to the heart of the invention as indicated by the statement that "*[t]he present invention* is directed toward graphical user interfaces for operating and accessing information on a computer, and more particularly, *to a three-dimensional ('3D') interactive computing interface and sorting interface* . . . ." *Id.* at 1:28–31 (emphasis added). Regarding the prior art and the 2D Terms, the specification states the following:

> *People currently compute within operating systems that present computer output, such as documents, applications, and operating system's interface in a 2D (two-dimensional) visual display.* After initially being loaded into the computer by the boot program, the operating system controls all the other programs in a computer. Typically, the component of the operating system that summons the style in which this output is displayed is called the GUI or graphical user interface. A successful GUI will use screen presentations including metaphors that utilize graphic elements such as icons to make an operating system's input and output easier to manage. Most computer operating systems incorporate *a GUI that utilizes two-dimensional graphics to capture, process, and output all input from an end user in a 2D form–*

> *having height and width only*.
>
> This output is usually confined *within a window that is drawn on a finite-sized desktop, i.e., the working area of a computer, that has a given length and width.* When the computer's output exceeds this *finite working graphical area*, elements of the GUI (the windows) are typically drawn on top of each other such that the GUI components overlap one another other. In some operating systems, a shadow is drawn beneath these overlapping windows on the desktop to make them appear as if they have depth. This technique allows an end user to identify the overlapping windows more easily.

Id. at 1:56–2:14. Similarly, the specification states that "the present invention displays graphics from the *user's 2D finite desktop* in 3D infinite space while retaining the functionality of the 2D programs and documents." *Id.* at 5:43–46. Accordingly, a person of ordinary skill in the art would understand that the 2D Terms mean "a finite graphical area defined by a two-dimensional coordinate system."

Regarding the 3D Terms, the intrinsic evidence indicates that they should be construed to mean "a virtual space defined by a three-dimensional coordinate system." Specifically, the specification describes this virtual or simulated space as follows:

> This system or 3D interactive computing interface will create what is known as a virtual space on the computer desktop for which it runs through the browser program. A virtual space is simply a program (running within the run-time environment/3D-rendering browser) simulating a 3D space within a flat 2D display by redrawing objects in the virtual space relative to one another as determined by their perceived distance from the viewer, FIG. 2. Objects that are supposed to be further away are drawn smaller whereas objects that are supposed to be closer are drawn larger.

Id. at 13:65–14:5, *see also id.* at 21:17–21.

Figure 10 illustrates the virtual 3D space displayed within a 2D finite graphical area.

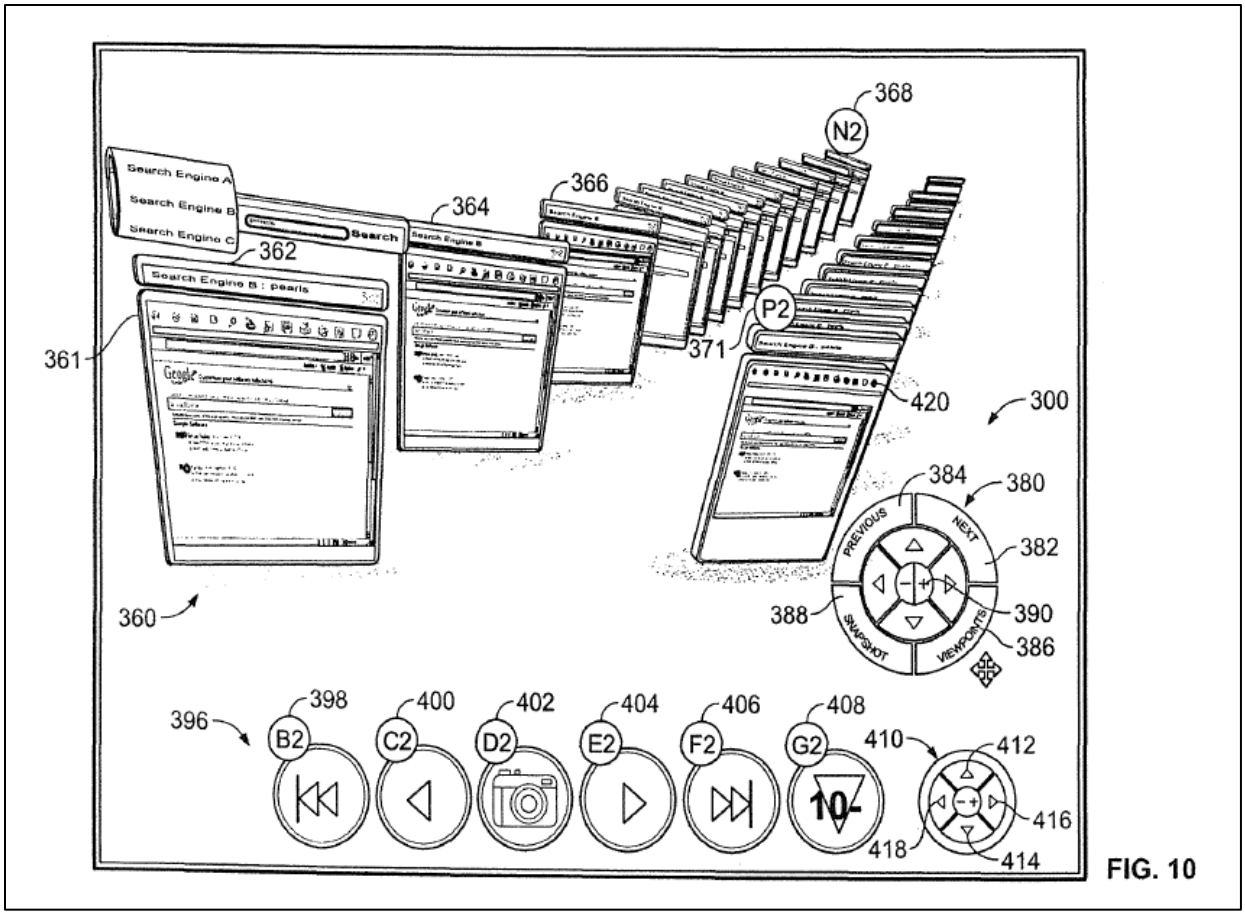

FIG. 10

Id. at Figure 10. The specification further contrasts and distinguishes the "seemingly unlimited" or "infinite" virtual space of the 3D GUI to the finite graphical working area of the desktop. *Id.* at 15:43–47 ("In general, the present invention displays graphics from the user's 2D finite desktop in 3D infinite space while retaining the functionality of the 2D programs and documents. Users will be able to use these files and applications, without restrictions, within 3D spaces."). Similarly, the specification states that the 3D graphical user interface "takes a user from one computing place to another while creating the illusion of infinite space in three dimensions ('3D')." *Id.* at 4:60–63. Thus, the virtual space is critical to the 3D Terms.

The specification further states that "[w]ithin the 3D immersive space that the 3D GUI creates, the user's viewpoint can be changed, where 'viewpoint' is defined as a specific location or perspective in the local coordinate system (3D space) from which the user can view the scene

or file." *Id.* at 9:63–66. In one embodiment, the specification describes the viewpoint as having an x, y, and z position within the virtual space. *Id.* at 13:8–13, *see also id.* at 15:55–16:4, 12:21–28. Accordingly, the Court construes the 3D Terms to mean "a virtual space defined by a three-dimensional coordinate system."

Turning to the parties' constructions, the Court rejects Defendants' constructions because they include the term "objects." It is true that "objects" may be displayed in the 3D space, but the term at issue is "spaces," and not the term "objects." Indeed, "objects" is a separately recited element in the claims. *See, e.g.*, '048 Patent at 37:57–58 ("displaying at least a portion of the first webpage on a first *object* within a 3D *space*") (emphasis added); '654 Patent at 38:25–28 ("replacing said plurality of images within said three-dimensional *space* with one of said first, second, and third *objects* corresponding to said one of said plurality of applications within a two-dimensional *space*") (emphasis added); '868 Patent at 38:53–54 ("said *object* is displayed in said 2D *space* on said fixed resolution display") (emphasis added).

It is well understood that "different claim terms are presumed to have different meanings." *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008). Thus, Defendants' construction improperly conflates "space" with "objects" by requiring that a "2D space" is a virtual space in which displayed objects (not the space) have only height and width, while a "3D space" is a virtual space in which displayed objects (again not the space) have height, width, and depth. Defendants' construction does not define the "space," but instead reads an "object" limitation into the disputed terms.

Moreover, Defendants' construction is problematic as it relates to the claim language of the '654 and '868 Patents. Claims 1 and 10 of the '868 Patent specify that the claimed "objects" are displayed "in said 2D space." '868 Patent at 38:53, 40:58–59. The claims further specify that

the claimed method replaces images within 3D space with "*objects* corresponding to said one of said plurality of applications *within said 2D space*." *Id.* at 39:40–44 (emphasis added), *see also, id.* at 41:10–14 ("*object* corresponding to one of said plurality of applications that is being interacted with by said user *in said 2D space*") (emphasis added).

Similarly, Claims 1 and 10 of the '654 Patent specify that the claimed method replaces images within 3D space with "*objects* corresponding to said one of said plurality of application *within a two-dimensional space*." '654 Patent at 38:25–29, 40:8–12 (emphasis added). As such, to require the 3D space to include "objects having a horizontal position (x), a vertical position (y), and a depth (z)" contradicts the claim language, because the recited objects are not displayed in 3D space. Instead, they are displayed in 2D space.

Defendants argue that "the cardinal distinction between a '2D' space and a '3D' space is that a 3D space is populated with objects having three dimensions." Dkt. No. 64 at 8. The Court agrees that a 3D space may be populated with an "object," but an "object" does not define a 3D space. Instead, a 3D space is defined by the characteristic of the space. Here, the intrinsic evidence indicates that the 3D Terms are "a virtual space defined by a three-dimensional coordinate system." Accordingly, the Court rejects Defendants' constructions because they require both the 2D Terms and 3D Term to include "objects."

Defendants also argue that the "3D space" and "2D space" are both virtual spaces. This argument is not consistent with use of the term "virtual" in the intrinsic evidence. The specification describes the 3D space as a "seemingly unlimited space" that creates the "illusion of infinite space in three dimensions." '048 Patent at 21:59–60, 4:62–63. In contrast, the specification describes the 2D space as the "finite working graphical area" of the desktop, and not as a virtual space. '048 Patent at 2:4–10. For example, the specification states that "[a] virtual space is simply a program

(running within the run-time environment/3D-rendering browser) simulating a 3D space within a flat 2D display by redrawing objects in the virtual space relative to one another as determined by their perceived distance from the viewer." *Id.* at 13:67–14:5.

Finally, Defendants argue that "the mere appearance of a z-axis … would improperly include prior art GUIs that the specification describes as 2D rather than 3D." Dkt. No. 64 at 12. Defendants contend that the specification distinguishes the invention from drawing a shadow beneath a window in a "2D GUI." *Id.* The Court disagrees that the patentee explicitly characterized the appearance of depth (*e.g.*, shadowing) as a "2D GUI." Instead, the specification states that the prior art included GUIs that have a "2D form-having height and width only." '048 Patent at 2:2–3. The specification further states that because the "finite–sized desktop" has a given length and width, "elements of the GUI (the windows) are typically drawn on top of each other such that the GUI components overlap one another other." *Id.* at 2:4–10. In other words, the specification focuses on the 2D GUI having a fixed length and width.

The specification does state that "[i]n some operating systems, a shadow is drawn beneath these overlapping windows on the desktop to make them appear as if they have depth." *Id.* at 2:10–12. However, the Court disagrees that the patentee is characterizing or limiting a shadow feature, which gives the appearance of a third dimension, as a "2D GUI." To be sure, the recited three-dimensional space is a virtual space that gives the appearance of a depth. Indeed, the specification states that the "present invention addresses the shortcomings of the prior art by providing an improved 3D graphical user interface" that "display[s] three-dimensional ('3D') objects in a simulated real-time 3D immersive Cartesian space." '048 Patent at 2:47–55. Accordingly, the Court rejects Defendants' argument that a shadow drawn beneath a window that gives the appearance of depth is excluded from the scope of the claims.

Turning to Plaintiff's alternative construction for the 2D Terms, the Court does not adopt it because it appears to equate the 2D Terms with a physical screen. First, the claims recite displaying objects "within" or "in" the 2D space rather than "on" the 2D space. *See, e.g.*, '048 Patent at claims 1-3, 5; '868 Patent at claim 1; '654 Patent at claim 1.

Second, the claims separately recite the "2D space" and the physical screen. For example, claim 8 of the '048 Patent recites "a window within a two-dimensional (2D) space on the display screen." '048 Patent at 39:27–29, *see also id.* at 39:36–38 ("said window within the 2D space on the display screen"); '868 Patent at 40:58–59 (claim 10) ("object is displayed in said 2D space on said fixed resolution display"); '654 Patent at 39:25 ("a display device"), 40:11–12 (separately reciting "a two-dimensional space"). This is consistent with the claimed 3D space, as claim 8 recites "display[ing] ... a first object within a 3D space on the display screen," indicating that the physical display screen is not coextensive with the 3D space. '048 Patent at 39:10–14.

The physical display screen therefore is neither the 2D space nor the 3D space. Instead, it is hardware used to display both "a virtual space defined by a [local] three-dimensional coordinate system" and "a finite graphical area defined by a two-dimensional coordinate system."

3. Court's Construction

For the reasons set forth above, the Court construes the terms **"three-dimensional (3D) [immersive] space," "three-dimensional space,"** and **"3D [immersive] space"** to mean **"a virtual space defined by a three-dimensional coordinate system."** The Court also construes the terms **"two-dimensional (2D) space," "two-dimensional space,"** and **"2D space"** to mean **"a finite graphical area defined by a two-dimensional coordinate system."**

B. "texturing"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
"texturing"	No construction necessary; plain and ordinary meaning applies. Alternatively: drawing or mapping [the first image on the first object and the second image on the second object]	"mapping an image onto a surface of a three-dimensional object"

1. The Parties' Positions

The parties appear to agree that "texturing" means "mapping." The parties dispute whether the construction should also include "drawing," and whether the drawing and mapping is "onto a surface of a three-dimensional object," as Defendants contend. Plaintiff contends that "texturing" is a term that jurors will readily understand in the context of the claim language. Dkt. No. 55 at 15 (citing '048 Patent at 37:62–38:3, 39:19–23). Plaintiff argues that its alternative construction presents a natural definition of "texturing," and finds support in the plain language of the claims and the embodiments disclosed in the specification. *Id.* at 16 (citing '048 Patent at 22:17–24, 26:20–24).

Regarding Defendants' construction, Plaintiff argues that Defendants' construction would render the claim language nonsensical. *Id.* Plaintiff contends that Defendants' construction reads out embodiments where "texture" is used to mean "draw," and not just "map." *Id.* at 17 (citing '048 Patent at 23:26–34, 23:35–43). Plaintiff also contends that construing "texturing" to mean "texture mapping" would improperly narrow the scope of the claim in direct contravention of the specification. *Id.* (citing '048 Patent at 23:44–52).

Defendants respond that the specification's exclusive use of the term "texture" in the context of mapping an image on a 3D object confirms that their construction is correct. Dkt. No. 64 at 20. Defendants contend that the specification consistently states that texture mapping is the

mapping of an image onto a surface of a three-dimensional object, and does not disclose "texturing" a two-dimensional object. *Id.* Defendants also argue that the specification's description of texture mapping is consistent with extrinsic evidence, which Defendants contend describes texture mapping as mapping an image onto a surface of a three-dimensional object. *Id.*

Defendants further argue that neither of the passages quoted by Plaintiff uses the words "texture" or "texturing." *Id.* at 21 (citing '048 Patent at 22:17–24, 26:20–24). Defendants contend that the specification exclusively uses the term "texture" in the context of "texture mapping," and uses texture mapping to refer to the mapping of an image onto a 3D object. *Id.* Defendants also contend that none of the specification passages quoted by Plaintiff refer to "drawn" or "redrawn" in connection with "texture" or "texturing." *Id.* (citing '048 Patent at 23:26–43). Defendants argue that Plaintiff never explains what it understands "drawing" to be and how it differs from "mapping." *Id.*

Defendants next contend that Plaintiff's partial quote of column 23, lines 44-56 of the specification does not support a conclusion that "texturing" refers to anything other than applying an image to a 3D object. *Id.* at 21-22 (citing '048 Patent at 23:44–52). Defendants argue that nothing in either the claims or the specification supports Plaintiff's assertion that "texturing" refers to something other than mapping an image onto a 3D object. *Id.* at 22. Finally, Defendants contend that their construction does not lead to nonsensical results. *Id.*

Plaintiff replies that Defendants propose to construe "texturing" to advance a non-infringement argument. Dkt. No. 69 at 9. Plaintiff argues that the claim language makes clear that texturing is done to an object being displayed in 3D space. *Id.* at 9-10. Plaintiff further argues that the patents allow for both 2D and 3D objects to be represented in 3D space. *Id.* at 10. Plaintiff contends that Defendants' argument that it has failed to tie the term "drawing" to the terms

"texturing" or "mapping" is meritless. *Id.* According to Plaintiff, the contexts in which "texturing" and "drawing" appear make clear that they are used interchangeably and embody the similar concept of mapping an image onto an object. *Id.*

2. Analysis

The term "texturing" appears in asserted claims 1 and 8 of the '048 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The specification does not use the word "texturing," but does use the word "texture," and associates the term with drawing and mapping. For example, the specification states that "the 3D GUI provides full functionality and interactivity of the 2D display of a user's computer . . . redrawn into a novel simulated real-time 3D immersive Cartesian space, whereby the 2D graphics are *drawn or mapped onto 3D objects*." '048 Patent at 22:17–24 (emphasis added).

Likewise, the specification states that "the 3D GUI is adapted to create a visual computing history, whereby normal changes to a 2D computer display output are *drawn or mapped onto new 3D objects*, rather than replace the current output or 2D display once a change is made." *Id.* at 26:20–24 (emphasis added). Accordingly, the intrinsic evidence indicates that "texturing" means "drawing or mapping an image onto a 3D object."

The extrinsic evidence is consistent with the intrinsic evidence, and defines "texture mapping" as adding detail to a 3D object by "wrapping" a picture or pattern around the object. Dkt. No. 64-1 at 5 (Microsoft Computer Dictionary (5th ed. 2002)). Thus, the Court finds that "texturing" is done on objects being displayed in 3D space. Indeed, this is the plain language of the claims. *See* '048 Patent at 37:66–38:3 ("texturing the first image on the first object and the second image on the second object, the first object being displayed in a foreground of the 3D space and the second object being displayed in a background of the 3D space").

Defendants originally argued that Plaintiff fails to tie the term "drawing" to the term "texturing" in any way. Dkt. No. 64 at 21. The Court notes that the term "drawing" does not appear in the same sentence as "texture mapping" in the specification. However, the context in which the terms drawn and mapped appear indicates that the terms are used interchangeably and embody the similar concept of mapping an image onto an object. For example, the specification uses the term "mapped" and "drawn" or "redrawn" together in a number of places. *See, e.g.*, '048 Patent at 22:23, 26:9–19, 23:26–34, 26:23, 23:39. Indeed, the specification states the following:

> In accordance with one embodiment of the present invention, the 3D GUI provides full functionality and interactivity of the 2D display of a user's computer (including the selective and isolated capturing of graphical windows, desktops, HTML pages, and general program outputs) redrawn into a novel simulated real-time 3D immersive Cartesian space, whereby the 2D graphics are *drawn or mapped onto 3D objects*.

Id. at 22:17–24 (emphasis added). Thus, the specification links "drawing" to "texturing" an image onto an object. Finally, it is unclear if this aspect of the construction is still disputed. During the claim construction hearing Defendants stated that they there were fine with adding "drawing" to their construction. To the extent that the parties still dispute this aspect of the construction, the Court has resolved the dispute.

3. Court's Construction

For the reasons set forth above, the Court construes the term **"texturing"** to mean **"drawing or mapping an image onto a 3D object."**

C. "timeline"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
"timeline"	No construction necessary; plain and ordinary meaning applies. Alternatively: A time-based sequence of images	"a sequence of chronological images that are associated with, but which are not, the at least first, second, and third objects"

1. The Parties' Positions

The parties dispute whether the term "timeline" requires construction. Plaintiff argues that the jury will understand the term "timeline" from the claim language itself and no construction is necessary. Dkt. No. 55 at 18. Plaintiff contends that Defendants' construction renders the claim language redundant and nonsensical, because all of the words of Defendants' construction are found within the claim limitations themselves. *Id.* at 19 (citing '654 Patent at 38:6–7, 39:57–58).

Plaintiff further argues that the '654 Patent teaches that applications are opened on 2D objects, and that images of those objects are generated and displayed on a timeline in 3D space. *Id.* According to Plaintiff, the claim makes clear that the images and objects are distinct. *Id.* Plaintiff also argues that the images are what are displayed in the timeline in 3D space, while the objects are the corresponding applications in the 2D space. *Id.*

Defendants respond that Plaintiff's construction fails to make clear that the claimed objects are not the claimed images. Dkt. No. 64 at 23. Defendants argue that Plaintiff's acknowledgement that the claimed images and objects are not the same thing will not be before the jury. *Id.* Defendants contend that the parties are correct in agreeing that the timeline's "images" are distinct from the claimed "objects." *Id.* (citing '654 Patent at 38:25–29, 37:63–38:4).

Defendants further argue that the parties also agree that the timeline's images are in chronological order. *Id.* at 23-24 (citing '654 Patent at 11:50–61, 7:4–8, 8:46–52, 9:6–14, 9:45–52, 13:44–52). Defendants contend that Plaintiff's argument that their construction is nonsensical lacks merit given that Plaintiff's arguments are premised upon its incorrect understanding of Defendants' construction. *Id.* at 24. Defendants argue that it is important that the Court adopt their construction so the jury understands the meaning of this claim term. *Id.*

Plaintiff replies that its construction notes that the sequence of images, and not the images themselves are "time-based" or "chronological," and does not needlessly repeat the claim

language. Dkt. No. 69 at 11. Plaintiff further contends that the '654 Patent's file history supports it argument that the sequence of images, and not the images themselves, are what must be time-based or chronological. *Id.* (citing Dkt. No. 69-2 at 5).

2. Analysis

The term "timeline" appears in asserted claims 1 and 10 of the '654 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the claim language indicates what the timeline "comprises" or includes:

> *[D]isplaying on said display device said timeline* associated with said plurality of applications, *comprising*;
> *generating a plurality of images*, . . . ; and *displaying said plurality of images in a three-dimensional space* on said display device *in an order based on a last time that said user one* of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object[.]

'654 Patent at 37:59–38:11 (emphasis added). Accordingly, a person of ordinary skill in the art would understand that "timeline" means "a time-based sequence of images."

Turning to Defendants' construction, the additional elements that Defendants include are already expressed within the claim limitations themselves. For instance, Claims 1 and 10 recite that the timeline displays images "in an order based on a last time" that a user opened and interacted with certain objects. *Id.* at 38:6–7, 39:57–58. Thus, a "chronological sequence" is already included in the claim language itself.

Further, the context of the claim makes clear that the "images [] are associated with, but [] are not, the at least first, second, and third objects." The '654 Patent teaches that applications are opened on 2D objects, and that images of those objects are generated and displayed on a timeline in 3D space. While the images and objects may be associated, they are not the same and are distinct. To be sure, the claims recite that the first image is generated based on "at least a portion

of a first object generated by said first application and having first application-specific data," the second image generated based on "at least a portion of a second object generated by said second application and having second application-specific data," and so forth.

Thus, the claim language makes clear that the images and objects are distinct. The images are what are displayed in the timeline in 3D space, while the objects are the corresponding applications in the 2D space. In short, Defendants fail to provide a persuasive reason to redraft the claim by insert this unnecessary language. *Alexam, Inc. v. Best Buy Co.*, No. 2:10CV93, 2012 U.S. Dist. LEXIS 49511, at *22 (E.D. Tex. Apr. 9, 2012) ("[W]here additional language may be unduly limiting, confusing, or redundant, it is in a court's power to determine that no construction is necessary.").

3. Court's Construction

For the reasons set forth above, the Court construes the term **"timeline"** to mean **"a time-based sequence of images."**

D. "application-specific data"

Disputed Term	Plaintiff's Proposal	Defendants' Proposal
"application-specific data"	No construction necessary; plain and ordinary meaning applies. Alternatively: Data related to an application	"data specific to one or more applications"

1. The Parties' Positions

The parties dispute whether the term "application-specific data" should be construed to include "data specific to one or more applications," as Defendants propose. Plaintiff contends that the claim language provides sufficient context and definition of this term. Dkt. No. 55 at 20. According to Plaintiff, "application-specific data" is the data that is related to an application, and no construction is necessary. *Id.* at 21.

Regarding Defendants' construction, Plaintiff argues that the claim language teaches that there is a one-to-one correspondence between an application and its data, with "each" application configured to generate "an object having application-specific data." *Id.* (citing '654 Patent at 37:63–38:1). Plaintiff also argues that Defendants' construction adds language without actually construing any term. *Id.* at 22.

Defendants respond that each of the claims in which "application-specific data" appears includes the transitional phrase "comprising." Dkt. No. 64 at 25 (citing '654 Patent at 37:47, 39:24, 41:11; '868 Patent at 38:44, 40:44, 42:55). Defendants argue that "data related to an application" therefore means data related to one or more applications. *Id.* Defendants contend that Plaintiff's assertion that the claims somehow show "that there is a one-to-one correspondence between an application and its data" is incorrect and unsupported. *Id.*

Defendants also argue that there is no reason the claim language cannot encompass an object that includes data that is specific to multiple applications. *Id.* Defendants contend that multiple browser applications would render the same web page and display the same images, the same text, and the same icons from that webpage. *Id.* According to Defendants, this means that the web page is specific to multiple web browsers, rather than to a single web browser. *Id.* at 26.

Defendants further argue that the specification describes displaying web pages that are not specific to only one application because they can be displayed by any one of multiple browser applications, such as Internet Explorer and Mozilla Firefox. *Id.* (citing '654 Patent at 7:63–66, 10:34-55, 12:42–13:13, Figures 10, 13B, 14, 19). Defendants argue that their construction properly includes these disclosed embodiments.

Plaintiff replies that Defendants' argument is rooted in a fundamental misunderstanding of the claimed relationship between an "application" and its "application-specific data." Dkt. No. 69

at 11. Plaintiff argues that the claim language provides that there is a one-to-one relationship between an open application and data associated with that application. *Id.* (citing '654 Patent at 37:63–38:1). According to Plaintiff, the claims of the '654 and '868 Patents focus on the steps taken after a browser is open and displaying a first, second, and third webpages. *Id.* at 12. Plaintiff contends that the data specific to an application is the webpage data with which users can interact. *Id.* Plaintiff argues that Defendants' construction goes beyond the scope of the claim language and reads elements into the claims that are unnecessary for their understanding. *Id.*

2. Analysis

The term "application-specific data" appears in asserted claims 1, 10, and 19 of the '654 Patent; and claims 1, 10, and 19 of the '868 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that Defendants' construction is ambiguous and could confuse a jury. As recited in the context of the claims, data that is "specific" to one application would not appear to be "specific" to another application, otherwise it would no longer be "specific" to the first application. In contrast, data that is "specific" to "one or more applications" is no longer "specific" to any application, because it is arguably common to all applications. Thus, Defendants' construction could potentially read "specific" out of the claims. That said, the Court generally agrees with Defendants' argument, but disagrees with Defendants' construction.

The claim language teaches that there is a one-to-one correspondence between an application and its data, with "each" application configured to generate "an object having application-specific data." The claim language recites that the "*first image* is an image of at least a portion of a *first object* generated by said *first application and having first application-specific data*, said *second image* is an image of at least a portion of a *second object* generated by said

second application and having second application-specific data," and so forth. '654 Patent at 37:63–38:1 (emphasis added).

Defendants argue that this claim language should include multiple web browsers generating the same web page and displaying the same images. The Court agrees that Defendants' example would fall within the scope of the claims, assuming that each browser was a different application. (*e.g.*, Microsoft Internet Explorer, Google Chrome and Mozilla Firefox). Indeed, the specification describes displaying web pages, such as Yahoo!, Google, eBay, and MSN. *See, e.g.*, '654 Patent at 10:34–55, 12:42–13:13, Figure 10 (showing Google in window 361), Figs. 13B and 19 (each showing the fictional web page "NCN.com"), Fig. 14 (showing a Yahoo! web page). These web pages are not specific to only one application because they can be displayed by any one of multiple browser applications, such as Internet Explorer and Mozilla Firefox. *See, e.g.*, '654 Patent at 7:63-66 (acknowledging the existence of both browsers).

Plaintiff does not appear to disagree with Defendants' argument. Instead, Plaintiff contends that "it does not matter whether the same webpage can be opened and/or displayed using different web browsers," because the claims "focus on the steps taken *after* a browser is open and displaying a first, second, and third webpages." Dkt. No. 69 at 12 (emphasis in original). The Court agrees and finds that the term "application-specific data" should be construed to mean "data specific to an application."

3. Court's Construction

For the reasons set forth above, the Court construes the term **"application-specific data"** to mean **"data specific to an application."**

E. The preambles of the ’868 Patent’s independent claims

Disputed Term	Plaintiff’s Proposal	Defendants’ Proposal
The preambles of the ’868 Patent’s independent claims	No construction necessary. The preambles of the ’868 Patent’s independent claims are not limiting because the preambles merely state a purpose or intended use for the invention. To the extent that the preambles are limiting, please see above for SpaceTime3D’s proposed constructions of terms that appear in the preambles.	The preambles are limiting.

1. The Parties’ Positions

The parties dispute whether the preamble of claims 1, 10, and 19 of the ’868 Patent are limiting. Plaintiff contends that each of the preambles is not limiting because it simply provides an intended use and describes the features of the claimed invention. Dkt. No. 55 at 23. Plaintiff also argues that the preambles are not limiting because the bodies of the claims themselves describe structurally complete inventions. *Id.* at 23 (citing ’868 Patent at 38:45–39:50, 42:56–44:24, 40:45–41:57). Plaintiff further argues that if the preambles are limiting, the terms that appear in the preambles should be construed consistently with its proposed constructions for the terms “three-dimensional (3D) space” and “two-dimensional (2D) space.” *Id.* at 24.

Defendants respond that the preamble of claim 1 of the ’868 Patent includes four phrases that are antecedent basis for limitations in the claim’s body. Dkt. No. 64 at 27 (citing ’868 Patent at 38:40-44, 38:48, 38:53–54, 39:6). Defendants further argue that the preambles of claims 10 and 19 of the ’868 Patent each include three antecedent basis phrases. *Id.* (citing ’868 Patent at 40:44, 40:53, 40:59, 41:14, 42:52-55, 42:59, 42:64, 43:19). According to Defendants, the claims are drafted in a manner that uses both the preambles and the claim bodies to define the claimed invention, because the preambles contain several antecedent bases for elements that are recited

later in the claims. *Id.* at 28.

Defendants also argue that Plaintiff ignores the fact that the preambles also provide the antecedent bases for many limitations in the body of the claims. *Id.* Defendants contend that the preamble is limiting when the claim drafter also used it to define the subject matter of the claimed invention, such as when it provides antecedent bases. *Id.* Finally, Defendants argue that the preambles here are not used "only to state a purpose or intended use for the invention," because they provide the antecedent bases for several limitations in the claim bodies. *Id.*

Plaintiff replies that Defendants fail to explain how the preamble terms embody additional essential components of the invention that are not captured in the remaining claim language. Dkt. No. 69 at 13 (citing '868 Patent at 38:45–39:6, 38:40–44). Plaintiff also argues that Defendants have failed to point to anything in the '868 Patent's prosecution history that the terms at issue were added to distinguish this invention from the prior art. *Id.* at 14. Plaintiff contends that Defendants do not explain how the preamble terms provide context essential to understanding the meaning of the terms in the claims. *Id.* According to Plaintiff, the fact that certain terms in the preambles are repeated later in the claims is insufficient to overcome the general rule that preambles are not limiting. *Id.*

2. Analysis

"[W]hether to treat a preamble as a claim limitation is determined on the facts of each case in light of the claim as a whole and the invention described in the patent." *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 831 (Fed. Cir. 2003). Generally, "the preamble does not limit the claims." *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). Nonetheless, the preamble may be construed as limiting if it provides antecedent basis for later claim elements. *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1367-77 (Fed. Cir. 2005).

The parties agree that the preamble of claim 1 of the '868 Patent includes four phrases that provide antecedent basis for limitations in the claim's body. Specifically, the terms "a two-dimensional (2D) space," "a plurality of applications," "a three-dimensional (3D) immersive space," and "a fixed resolution display" provide antecedent basis. The parties further agree that the preambles of claims 10 and 19 of the '868 Patent each include three antecedent basis phrases. Specifically, "a two-dimensional (2D) space," "a plurality of applications" and "a three-dimensional (3D) space" provide antecedent basis. The Court finds that in this instance the preambles are limiting because, "[w]hen limitations in the body of a patent claim rely upon, and derive antecedent basis from, the claim preamble, the preamble may act as a necessary component of the claimed invention." *Micron Tech., Inc. v. Tessera, Inc.*, 440 F. Supp. 2d 591, 597 (E.D. Tex. 2006).

The Court further finds that the preambles are "necessary to give life, meaning, and vitality" to the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). The Summary of the Invention section states that "[t]he present invention addresses the shortcomings of the prior-art systems and methods. In particular, the present invention is directed to a system and method for *providing an improved 3D graphical user interface*." '868 Patent at 2:53–56 (emphasis added). The specification further states that "[i]n accordance with one aspect of the embodiments described herein, there is provided a graphical user interface that uses the two-dimensional ('2D') display of a user's computer to display three-dimensional ('3D') objects in a simulated real-time 3D immersive Cartesian space." *Id.* at 2:57–61. Thus, the specification emphasizes the importance of "using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space … said device having a fixed resolution display," which is the preamble of claim 1.

Likewise, the specification emphasizes the importance of "using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a computing device and a three-dimensional (3D) space," which is the preamble of claim 10. Similarly, the specification emphasizes the importance of "using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) space," which is the preamble of claim 19. Accordingly, in this instance, the preambles are limiting because they recite using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) immersive space, as well as provide antecedent basis for a number of terms recited in the body of the claim.

3. Court's Construction

The preambles for claims 1, 10, and 19 of the '868 Patent are limiting.

V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered to not refer to each other's claim construction positions in the presence of the jury. Likewise, in the presence of the jury, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court. The Court's reasoning in this order binds the testimony of any witnesses, and any reference to the claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 7th day of December, 2020.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE